

Appl. No. 10/826,056
Resp./Amdt. dated Jun. 28, 2006
Reply to Office Action of 04/05/2006

Remarks/Arguments

There are no amendments to the specification and drawings herein.

Claims 1-9, 12-21, 24 and 43-57 are pending. Claims 10-11, 22-23 and 25-42 were previously cancelled, without prejudice. Claims 1-9, 12-21, 24 and 43-53 are allowed. Claims 54, 55 and 57 are rejected and Claims 13 and 56 are objected to. Claims 13 and 54 have been amended herein. Reconsideration is respectfully requested.

Claim 13 was objected to for an informality. Claim 13 is amended herein to correct the informality noted by the Examiner. Entry and consideration of the amendment to Claim 13 are respectfully requested.

Claims 54, 55 and 57 were rejected under 35 U.S.C. 102(e) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Chou et al., U.S. Pub. No. 2004/0156108 (hereinafter 'Chou et al.'). The Examiner contended that Chou et al. disclose the claimed imprinting apparatus and relied on Figures 13-17 and the accompanying text of Chou et al. to support this rejection. In particular, the Examiner contended that Figure 15, which had been attached to the previous Office Action, illustrates the claimed invention. Moreover, the Examiner contended, "In addition, this rejection based on a scope of claims that a material of semiconductor layer, a first material and a second material are the same material since independent claim 54 does not cite a difference between the first material, the second material and the semiconductor material."

Applicants respectfully disagree that Chou et al. *prima facie* anticipate or render *prima facie* obvious Applicants' invention according to Claims 54, 55 and 57 for at least the same reasons provided previously to the Examiner in the Amendment/Reply filed Jan. 17, 2006. The Examiner simply failed to show that Chou et al. disclose or suggest, explicitly or implicitly, both of "each element of the claim under consideration" (*W.L. Gore & Associates v. Garlock*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983)) and the claimed elements "arranged as in the claim" (*Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984)), as required by the Federal Circuit for establishing *prima facie* anticipation under 35 U.S.C. 102. As such, the Examiner has not shown and respectfully cannot show that there is, "no difference between the

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claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention" (*Scripps Clinic & Research Found. V. Genentech Inc.*, 927 F.2d 1565, 18 USPQ 2d 1001, 1010 (Fed. Cir. 1991)), also required by the Federal Circuit for establishing *prima facie* anticipation under 35 U.S.C. 102.

Moreover, the Examiner failed to show with respect to the rejected claims each of 1) "some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings"; 2) "a reasonable expectation of success" in modifying the teachings of the reference; and 3) that the prior art reference teachings "teach or suggest all the claim limitations", as required by the courts for establishing a *prima facie* case of obviousness. MPEP, Section 2142, *Establishing a Prima Facie Case of Obviousness*. Also see, *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Moreover, the Examiner failed to establish that the teaching or suggestion to make the claimed modification and the reasonable expectation of success are both "found in the prior art, and not based on applicant's disclosure". *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed.Cir.1991) (*emphasis added*). Each of the preceding must be shown in order to establish and support a *prima facie* case of obviousness. In other words, the Examiner has not met the court-recognized minimum requirements for establishing and supporting a *prima facie* case of either anticipation or obviousness.

However, in an attempt to expedite the prosecution of this application to issuance, and for no other reason, Applicants have amended Claim 54 to recite that the first material is different from the second material. Therefore, while Chou et al. disclose and illustrate a nano-imprinting apparatus and its fabrication, Chou et al. clearly do not disclose or suggest, "alternating layers of a first material and a second material in the trench" where "the first material is different from the second material", as recited in Applicants' amended Claim 54.

Chou et al. simply illustrate in Figures 13a-13c and disclose in the corresponding text, a (110) substrate having a patterned SiO₂ masking layer on the surface of the (110) substrate, which is used in etching trenches in the (110) substrate. The SiO₂ masking layer is removed from the surface of the (110) substrate in Figure 13c after the trenches are formed to yield the nano-imprinting apparatus. It is clear

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from the Figures 13a-13c and Figure 15 of Chou et al. that the vertical extending structures, which the Examiner labeled "layer of second material" in the previously provided Figure 15, are actually vertically extending portions of the material of the (110) substrate, since Figures 13a-13c illustrate and Chou et al. disclose that it is the (110) substrate that is etched to form the vertical structures. Therefore, contrary to the Examiner's contention, no other material that distinguishes from the substrate material is present in Figure 15, as disclosed and illustrated by Chou et al.

Applicants are concerned that the Examiner is using impermissible hindsight to reconstruct from the prior art that taught solely by Applicants and further recited in Applicants' Claim 54. It appears that the Examiner has inappropriately read more into what Chou et al. actually illustrate, disclose and suggest than is permissible according to the courts. As stated by the Federal Circuit "Obviousness *may not* be established using hindsight" (*emphasis added*). *Para-Ordnance Mfg. v. SGS Importers Int'l*, 73 F.3d 1085, 1087, 37 USPQ2d 1237, 1239 (Fed. Cir. 1995), and the claimed modification and the reasonable expectation of success must be "found in the prior art, and not based on applicant's disclosure". *In re Vaeck*, cited *supra*.

Since the Examiner cannot show that Chou et al. disclose or suggest, "alternating layers of a first material and a second material" where, "the first material is different from the second material", then the Examiner at least has failed to show that Chou et al. render unpatentable Applicants' amended Claim 54. Therefore, the rejection of Claim 54 with respect to Chou et al. should be withdrawn.

Rejected Claims 55 and 57 are dependent from and include all of the limitations of base Claim 54. For at least the same reasons set forth above for Claim 54, the Examiner also failed to establish that Chou et al. render unpatentable dependent Claims 55 and 57.

Claim 56 is objected to for being dependent upon a rejected base claim, but considered allowable if rewritten in independent form. However, for the reasons set forth above, Applicants respectfully decline to rewrite Claim 56 at this time and respectfully requests reconsideration.

Applicants appreciate the allowance of Claims 1-9, 12-21, 24 and 43-53. In light of the remarks set forth above, Applicants submit that Claims 54-57, as provided

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herein, should be deemed allowable also. Reconsideration and allowance of Claims 54-57 are respectfully requested.

In summary, Claims 1-9, 12-21, 24 and 43-57 are pending in the application. Claims 1-9, 12-21, 24 and 43-53 were allowed. Claims 54, 55 and 57 were rejected and Claims 13 and 56 were objected to. Claims 13 and 54 are amended herein. Applicants respectfully submit that Claims 54-57 are in condition for allowance along with allowed Claims 1-9, 12-21, 24 and 43-53. It is respectfully requested that Claims 54-57 be allowed with allowed Claims 1-9, 12-21, 24 and 43-53, and that the application be passed to issue at an early date.

Should the Examiner's action be other than allowance of the application, or should the Examiner have any questions regarding the above, the Examiner is urged to contact the undersigned, Elizabeth E. Leitereg, telephone number (775) 849-3085, or David W. Collins, Reg. No. 26,857, Attorney for Applicants, Hewlett Packard Development Company, at telephone number (520) 399-3203.

Respectfully submitted,
M. SAIF ISLAM ET AL.

By: Elizabeth E. Leitereg
Elizabeth E. Leitereg, Esq.
Attorney for Applicant(s)
Registration No. 34,101

CERTIFICATE OF TRANSMISSION

I hereby certify that this correspondence is being facsimile transmitted to the United States Patent and Trademark Office on the date shown below.

Elizabeth E. Leitereg June 28, 2006
Elizabeth E. Leitereg Date